

ED PIP: Diagnostic Phase

Tools: Value Stream Mapping

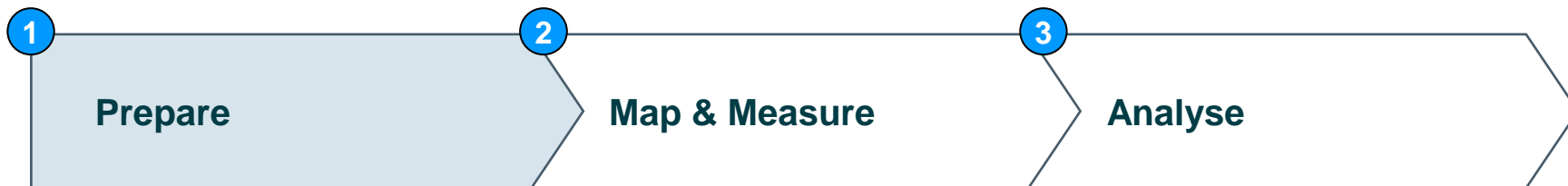
Value Stream Mapping – Overview

Outcome	<ul style="list-style-type: none"> All key flows (of work, information, materials) in a process are known
Definition: 'What is it?'	<ul style="list-style-type: none"> Value stream mapping presents a pictorial representation of the flow of materials, people and process information from the beginning to the end
Objectives: 'What is it used for?'	<ul style="list-style-type: none"> Value stream mapping <ul style="list-style-type: none"> Improves knowledge of people and processes, flows, activities, tools and resources Helps people understand flows, queues and bottlenecks Helps identify opportunities to reduce waste by detailing material and information flows Visually tracks resources and costs for each step in the process Enables stakeholders to more readily understand the process
Benefits:	<ul style="list-style-type: none"> By enabling stakeholders to more easily understand the issues, they can more readily identify and link root causes of issues to specific activities and steps within a process. This also assists with prioritising process improvements Whereas traditional people and process improvement tends to focus on a single process, value stream mapping provides a complete end-to-end perspective
When to use	<ul style="list-style-type: none"> Value stream mapping should be used when a detailed end-to-end process understanding is needed

Tip for integrating Lean principles into healthcare:

- Part of successfully implementing Lean in healthcare is adopting common language that may have originated in manufacturing and internalizing how it is used in a healthcare environment.*
- This section focuses on setting out a process from start to finish that includes all key steps (including the people involved and the activities they do). This may be many processes strung together*
- Value Stream Mapping is a team exercise – it builds the team, ensures that everyone understands the current “as is” process*

It's critical that you are well prepared before initiating the mapping of the value stream.

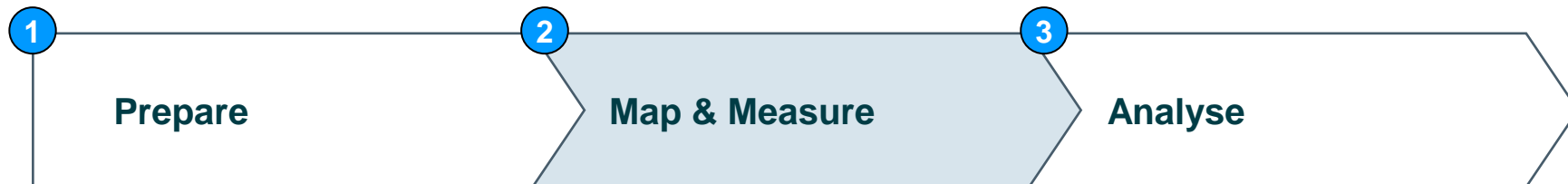


1. Review / assess any existing current state process flow maps and metrics
2. Prepare to capture metrics:
 - Ascertain the type of data that needs to be collected, and standardise units to be used
 - Develop a plan to gather data that needs to be measured on site (e.g. touch time)
 - Collect data from historical sources (e.g. volumes)
 - Request historical data prior to site visit
3. Prepare a list of interview questions for personnel



- Be mindful of shift start and stop times and peak/non-peak hours (this may skew data)
- Involve multiple reviewing staff (each should draw individual maps, which should all be incorporated at the end for completeness)
- Bring a stopwatch to verify all times (e.g. to verify existing report and KPI metrics)

Mapping the value stream should be conducted with the whole team represented and the final map should be representative of an iterative approach



1. Document the process to determine the resource and information flows:

- Physically walk through the process
 - Follow staff around
 - Record all activities staff are observed doing (even when told 'we don't normally do this')
 - Measure the touch time, cycle time, volumes and number of staff for each step
 - Ask how often they have to rework/redo work products
 - Note how work products initiate and flow (e.g. batched, ad-hoc)

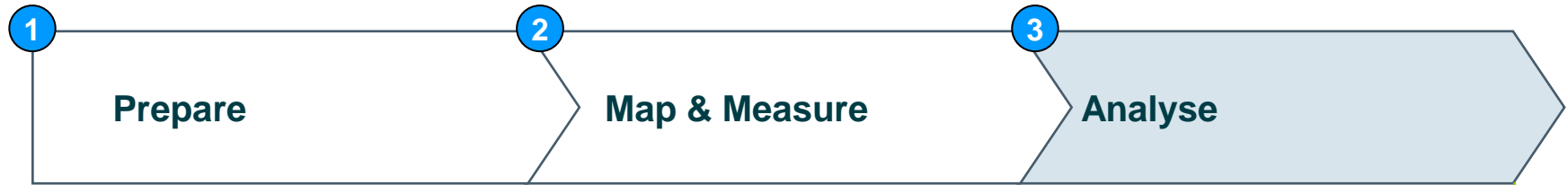
2. Collect cycle time and volume for the whole value stream

3. Return to work unit area as necessary to acquire more or verify data details



- Use a stopwatch to verify all times (verify existing report and KPI metrics)
- Ensure all necessary data is collected at each step to complete calculations
- Use standard measurements in all calculations (e.g. minutes vs. hours)
- Remember to include metrics and flows for exception processing and error correction
- Use pencil to map and record metrics
- Avoid using computers during reviews (time-consuming, distracting)

Once you've mapped out the value stream, work with the team to probe for accuracy and areas of opportunity

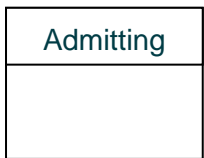


1. Review the process against the Diagnostic Questions
2. Assess any improvement recommendations made by staff
3. Annotate where waste and problems occur: bottlenecks, non-value added work, resource problems, rework and duplications, quality issues and control effectiveness
4. Analyse each element of the value stream, asking diagnostic questions to identify signs of opportunity in the areas of: material flow, process flow, resources, waste, queues, information flows, quality



- Analysis begins by listening to the staff who perform the process
 - Ask them what they would improve
 - Record notes when they mention things that 'take too long', they 'have to wait' or are 'complex or complicated'
- Review the process through the 'customer's eyes'
- Review each process through the Process Analysis Questions
- Share ideas for new Process Analysis Questions and techniques

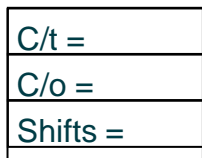
Value Stream Mapping: General Symbols



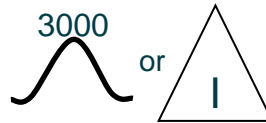
Internal process



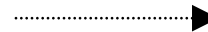
outside sources



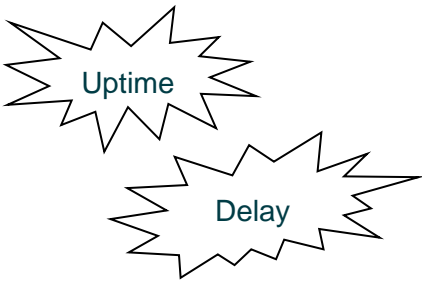
Data box



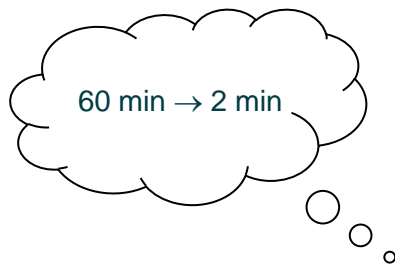
Inventory



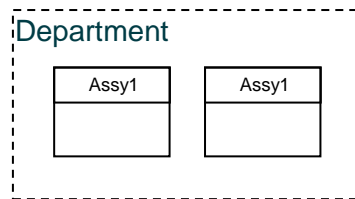
Manual information flow



Problem area



Improvement idea



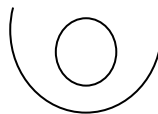
Department



Electronic information flow



Push Arrow



Operator



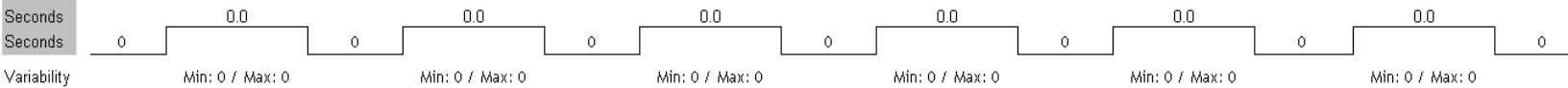
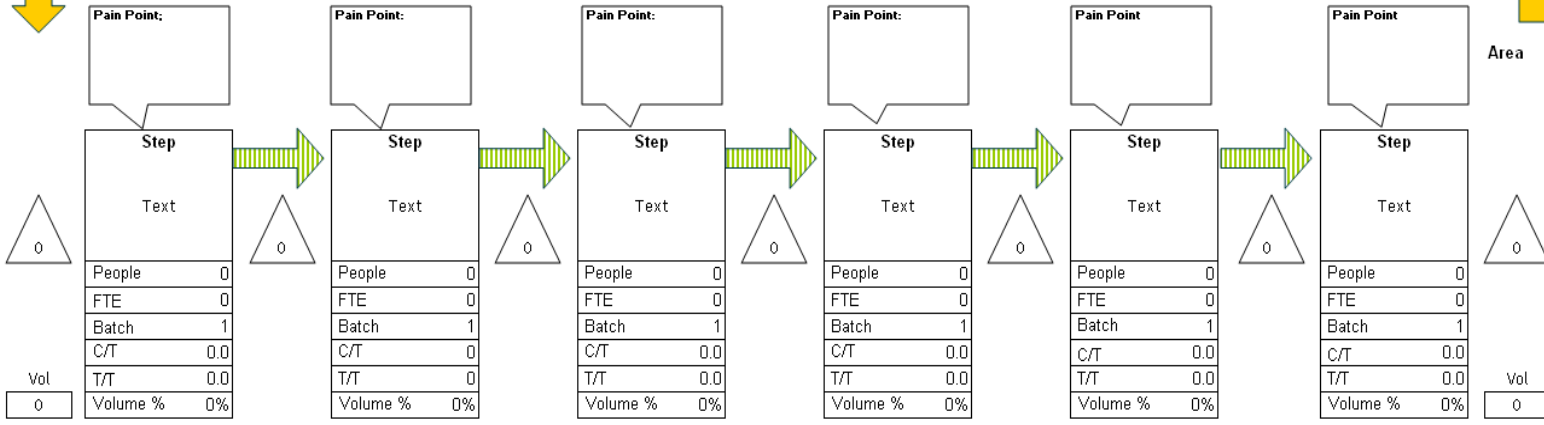
Schedule

Value Stream Mapping - Template

Title



Area



Notes:

Cycle Time	-	Seconds
Touch Time	-	Seconds
Process Time	-	Seconds
Cycle Time	-	mins
Touch Time	-	mins
Process Time	-	mins
Value add %	0.0%	

Tips and Tricks for generating a Value Stream Map (VSM)

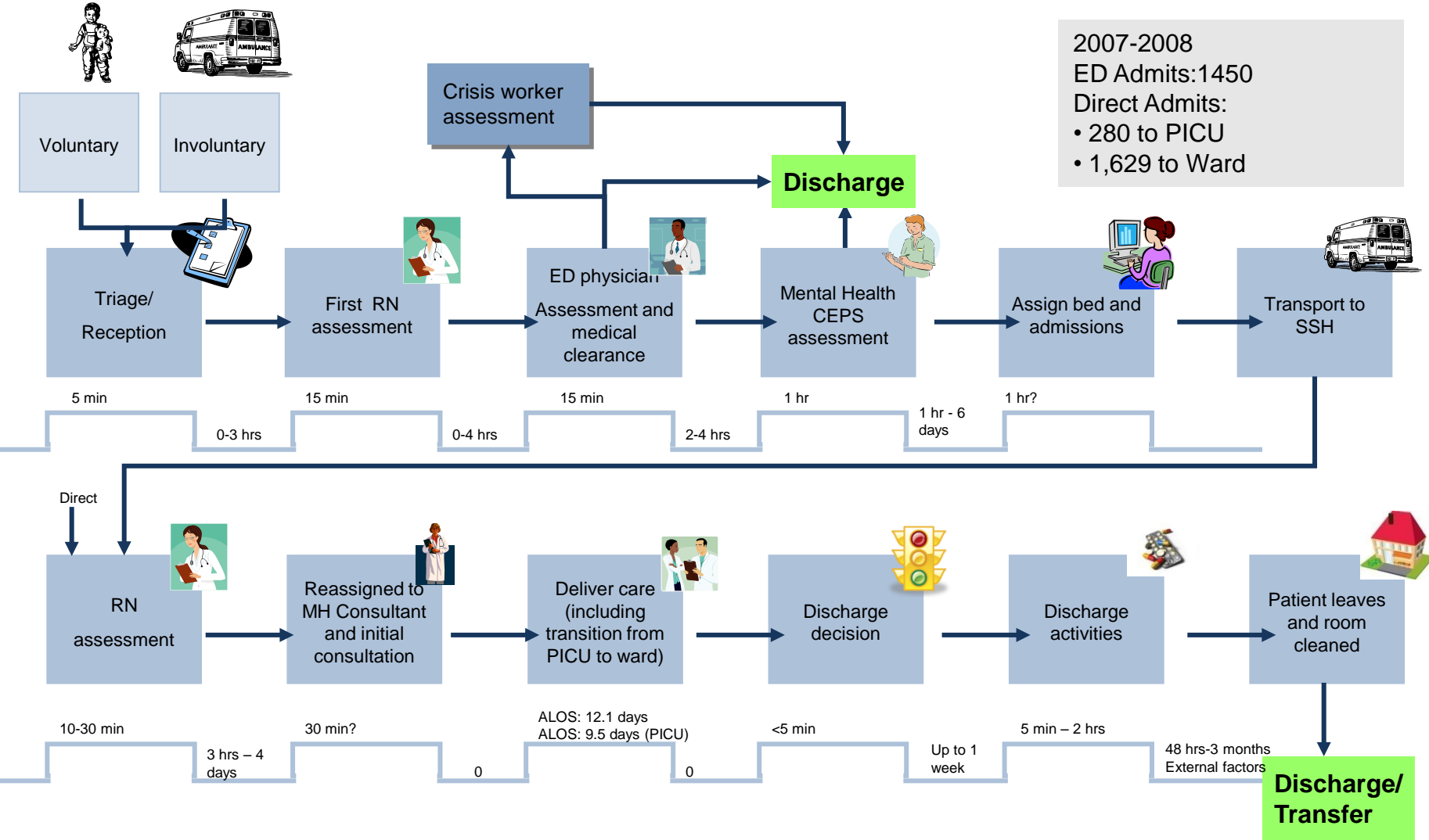
- Focus on the main flow and key sub-processes as well as those processes that have long lead times, high volume or high impact – there is no need to map the flow of every discrete part or input
- Mapping is a team exercise; it builds the team, ensures that everyone understands the current state and can illustrate inconsistencies and opportunities for improvement
- Think in terms of the process – not departments, professions or individuals
- Collect current state information by observing a patient and the required information flow through the process; document observations, time taken and other information as it occurs
- Use common sense to handle exceptions – write down any assumptions
- Include 'informal' information flows (e.g. phone calls, hallway conversations, hand written notes)
- Focus on getting a good snapshot of the actual process – if stakeholders state that certain parts of the process occur only rarely, review and observe the process again
- Use a pencil and sticky notes – a value stream map is a working document and using a pencil or sticky notes enables easy and neat edits
- Simplify the map by grouping steps that are directly related or linked (with no wait time in between) - this is best done once the team has a thorough understanding of the detailed version of the map
- Ensure you have the right resources:
 - Cross functional team inclusive of all stakeholders, (consider including the patient or family)
 - Supplies: Brown paper, sticky notes (3-4 colours), Coloured sticky dots, masking tape, flip chart, writing tools



- **Map the patient's journey, not the provider's journey**
- **Be careful not to jump to developing the future state map too early - spend time creating and understanding the current state**

Value Stream Mapping – ED to Inpatient Mental Health

Patient flow through the ED – Mental Health process



Value Stream Mapping – ED to Inpatient Mental Health with interesting insights/anecdotes related to problem areas

Patient flow through the ED – Mental Health process

